

SAZONOV, D.M.

Engineering design of wide-band matching devices for resonance antennas.
Nauch.dokl.vys.shkoly, radiotekh. i elektron. no.2:58-62 '58.

(MIRA 12:1)

1. Kafedra antennykh ustroystv i rasprostraneniya radiovoln Moskovskogo
energeticheskogo instituta.
(Radio, Shortwave---Antennas)

MARKOV, Grigoriy Timofeyevich. Prinimali uchastiye: TERESHIN, O.N., dotsent; VASIL'YEV, Ye.N., dotsent; DUPLENKOV, D.A., aspirant; SAZONOV, D.M., aspirant; NOSOV, O.N., inzh. PISTOL'KORS, A.A., retsenzent; DOLUKHANOV, M.P., prof., retsenzent; KOCHERZHIEVSKIY, G.N., dotsent, red.; VORONIN, K.P., tekhn.red.

[Antennas] Antenny. Moskva, Gos.energ.izd-vo, 1960. 534 p.
(MIRA 14:4)

1. Chlen-korrespondent AN SSSR (for Pistol'kors).
(Radio--Antennas)

L-54768-65 EWT(1)/EWT(m)/EPF(c)/EPR/EWP(j)/EEC(t)/T Ps-4/Pt-4/Pg-4/Ps-4/Pt-4/
P1-4 WW/LHB/GC/RM

ACCESSION NR: AP5015619

UR/0057/65/035/006/0990/0995

AUTHOR: Sazonov, D.M.; Frolov, N.Ya.

TITLE: Electromagnetic excitation of a radially laminated spherical medium

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 990-995

TOPIC TAGS: antenna, electromagnetic field, spherical shell structure, electromagnetic lens, mathematical method

ABSTRACT: The authors develop an algorithm for calculating the field of a system of concentric spherical shells excited by an arbitrary distribution of electric and magnetic currents in one of them. The dielectric constant and permeability are assumed to be constant within a shell but to vary from shell to shell. The calculations are of spherical lens antennas.

"APPROVED FOR RELEASE: 03/14/2001

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~~tween successive battle areas~~

Card 1/3

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L 54768-65

ACCESSION NR: AP5015619

scribed by its transfer matrices for TE and TM waves. The over-all transfer matrices are matrix products of the matrices for the several shells, and the reflection coefficients are simply expressed in terms of the elements of the product matrix. The wave amplitudes themselves are derived with the aid of the field reciprocity theorem, using a single spherical harmonic as the auxiliary field. The calculation method is particularly suitable for use with computers. Increasing the number of laminae considered does not necessitate thorough reprogramming but merely requires more machine time. The method is therefore appropriate for calculating the fields of spheres with continuously radially variable dielectric constants and permeabilities. "The authors thank the staff of the MEI antenna design department and its head, Professor G.T. Markov, for the interest they have shown in this work and for discussing the results." Orig.art. has: 19 formulas and 1 figure.

Card 2/3

L 54763-65
ACCESSION NR: AP5015619 /

ASSOCIATION: Moskovskiy energeticheskoy institut (Moscow Power En-
gineering Institute)

SUBMITTED: 17Aug64

ENCL: 00

SUB CODE: EM,EC

NR REF Sov: 002

OTHER: 000

Card 3/3

BABENKOV, M.A.; SAZONOV, D.H.

Packing the brickwork of the bottom of large capacity
open-hearth furnaces. Mat. i gornorud. prom. no. 3 v 76-77
My-Je '65. (MIRA 18:11)

5.1310

22920
S/123/61/000/007/008/026
A004/A104

AUTHOR: Sazonov, G.A.

TITLE: The utilization of chromium lactate for protective and ornamental coatings

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 7, 1961, 88, abstract 7B686 (V sb. "Nekotoryye vopr. tekhnol. proiz-va turbin" [Tr.Lenin-gr. metallich. z-da, no. 7], Moscow-Leningrad, 1960, 311 - 313)

TEXT: The author describes the technology of chromium lactate coating without sublayer which makes it possible to reduce the number of operations to 11 instead of 28 necessary with the ordinary chrome-plating methods with sublayer. The parts are ground and polished up to a surface finish of ∇ 10 - 12, then they are mounted on hangers and subjected to electrolytic degreasing in the following solution: caustic soda - 100-150 g, water glass - 5 g, calcinated soda - 30 g and water - 1 liter. Then the parts are washed in hot and cold water, subjected to electrolytic pickling, and chrome-plated in an electrolyte composed of: chromic anhydride - 150 g, sulfuric acid - 1.5 g, water 1 liter at $70-75^{\circ}\text{C}$ and a cathode current density of 18-20 amp/ dm^2 during 2 hours. Then the parts are washed again

Card 1/2

22920

S/123/61/000/007/008/026

A004/A104

The utilization of chromium lactate ...

in hot and cold running water and polished with the ГОИ(GOI) paste. The obtained chromium lactate coating has a hardness of Hv 850, is non-porous, has a uniform thickness, is wear and corrosion-resistant and withstands dynamic loads and bending deformation at a thickness of 20 μ . The analyzed method makes it possible to chrome-plate large-size parts with the aid of a limited d-c source.

N. Savina

[Abstracter's note: Complete translation]

Card 2/2

SAZONOV, G. A.

PHASE I BOOK EXPLOITATION SOV/5460

57

Leningradskiy metallicheskij zavod. Otdel tekhnicheskoy informatsii.

Nekotorye voprosy tekhnologii proizvodstva turbin (Certain Problems
in the Manufacture of Turbines) Moscow, Mashgiz, 1960. 398 p.
(Series: Its: Trudy, vyp. 7) Errata slip inserted. 2,100 copies
printed.

Sponsoring Agency: RSFSR. Sovet narodnogo khozyaystva Leningrad-
skogo ekonomicheskogo administrativnogo rayona, Upravleniye
tyazhelogo mashinostroyeniya, and Leningradskiy dvazhdy ordona
Lenina metallicheskij zavod. Otdel tekhnicheskoy informatsii.

Ed. (Title page): G. A. Drobilko; Editorial Board: Resp. Ed.: G. A.
Drobilko, B. A. Glebov, A. M. Mayzel', and N. Kh. Mernik; Tech.
Ed.: A. I. Kontorovich; Managing Ed. for Literature on Machine-
Building Technology: Ye. P. Naumov, Engineer, Leningrad Depart-
ment, Mashgiz.

PURPOSE: This collection of articles is intended for technical
personnel in turbine plants, institutes, planning organizations,
as well as for production innovators.

Card=1/12

Certain Problems (Cont.)

SOV/5460

COVERAGE: The experience of the LMZ (Leningradskiy metallicheskiy zavod - Leningrad Metalworking Plant) in the manufacture of modern large-capacity turbines is presented. Methods for the rationalization of basic manufacturing processes and for the mechanization and automation of manual operations are given. Descriptions of attachments and tools designed by LMZ for improving labor productivity and product quality are provided, and advanced inspection methods discussed. References accompany some articles. No personalities are mentioned. There are 26 references: 25 Soviet and 1 English.

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Card 2/12

Certain Problems (Cont.)

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Glushkov, A. I. [Engineer]. A Universal Indexing Attachment

Card-#7-12

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Pisarevskiy, M. M. [Candidate of Technical Sciences], and A. F. Yerashov [Engineer]. Magnetic Holders for Small Instruments and Parts 366

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Use of Ultrasonic and Gamma-Ray Flaw Detection for Inspecting
Weldments, Forgings, and Castings

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Semenov, N. V. [Engineer]. Optical Methods for Measuring
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AVAILABLE: Library of Congress (TJ7.L4)

Card-12/12

VK/dwm/jw
9/12/61

5.131D1081, 1208 10⁴³24452
S/081/61/000/007/005/010
B107/B207

AUTHORS: Butkevich, P. I., Sazonov, G. A.

TITLE: Electrolytic iron plating of hard-alloy plates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1961, 329, abstract 7K205 (7K205) (Sb. "Nekotoryye vopr. tekhnol. proiz-vva turbin" (Tr. Leningr. metallich. z-da, no. 7) M. - L., 1960, 300 - 310

TEXT: Iron plating was found to protect hard alloys from oxidation while being heated during the soldering process, to increase the strength of the soldered joint, and to eliminate tensions at the joint due to the cutters cooling down after soldering; thus, the risk of cracking in the hard-alloy plate is reduced. The electrolyte has the following composition in g/l: 250 - 350 FeSO₄ · 7H₂O, 50 NaCl; the tempera-ture is approximately 100°C, the pH about 2.5; D_c = 4 - 5 a/dm²; anodes: steel 2 or steel 3. A technological scheme of iron plating is provided.
[Abstracter's note: Complete translation.]

Card 1/1

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CIA-RDP86-00513R001447510017-1

SABANOV, S. P., initials

Chromium plating of parts of steam and hydraulic turbines.
Mashinostroenie no. 5866-61. 5-5 1961 (MIRA 13a2)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447510017-1"

KUBANIN, Yu.Z., inzh.; SAZONOV, G.G., inzh.; MIKAHYLOV, N.A., tekhnik;
SMIRNOVA, A.V., tekhnik; SYCHEV, G.A., tekhnik

Automation of the removal and quenching of cinders from "fluidized
bed" process furnaces. Mekh. i avtom. proizv. 15 no.3:14-17 Mr '61.
(MIRA 14:3)

(Automation) (Metallurgical furnaces)

SAZONOV, Gennadiy Grigor'yevich; MANUYLOV, P.N., red.

[Manual for fitters and installers of heat regulatory
and automatic control devices] Pamiatka slesaria-
montazhnika po priboram teplovogo kontrolia i avtoma-
ticheskogo regulirovaniia. Moskva, Energiia, 1965. 135 p.
(MIRA 18:10)

SAZONOV, G.N., inzh.

Processes and phenomena during the construction of tunnels
for subways from the point of view of engineering geology.
Transp.stroi. 14 no.12:45-47 D '64.

(MIRA 19:1)

SAZONOV, G.N.

Changes in the physicomechanical properties of the ground resulting from the excavation of the Moscow subway. Trudy VSEGIN GEO no. 1:51-62 '63. (MIRA 17:5)

AID P - 5325

Subject : USSR/Aeronautics - education

Card 1/1 Pub. 135 - 4/24

Author : Sazonov, I. A., Maj., Pilot Class I

Title : Education of pilots class I

Periodical : Vest. vozd. flota, 12, 17-20, D 1956

Abstract : The article deals with the role of First Class pilots in passing on their experience to others and cites as an exemplary flight a controlled night interception under instrument conditions. One photo. The article is of informative value.

Institution : None

Submitted : No date

SAZONOV, I., laureat Stalinskoy premii

Efficient organization of aerial operations in agriculture.
Grazhd.av. 12 no.2:28-29 F '55. (MIRA 16:1)
(Aeronautics in agriculture)

SAZONOV, I.A.; KALININ, V.K., inzhener, redaktor; MATSEYKVSAYA, Ye.N.,
tekhnicheskiy redaktor.

[Driving freight trains at high speeds] Skorostnoe vozhdenie tiazhelest-
vostnykh poezdov. Moscow, Gos.transp.zhel-dor. izd-vo, 1953, 17 p.
(Microfilm) (MLRA 9:5)
I.Starshiy mashinist elektrodepo Inskaya Tomskoy zheleznoy dorogi (for
Sazonov) (Railroads--Trains)

SAZONOV, I.A., starshiy mashinist elektrovoza.

Winter work with heavy weight trains. Elek. i top. tiaga no.2:
8 F '57. (MLRA 10:5)
(Siberia--Railroads--Cold weather operation)

SAZONOV, I.A.
SAZONOV, I.A., mashinist.

Characteristics of wintertime maintenance of electric locomotives.
Elek. i tepl. tsiaga no. 12:22-23 D '57. (MIRA 11:1)

1. Elektrovoz depo Inskaya Tomskoy dorogi.
(Electric locomotives--Maintenance and repair)

SAZONOV, I.A., inzh.

Experimental section for a.c. motor-powered railroad cars. Elek.
i tepl. tiaga 4 no.5:34 My '60. (MIRA 13:7)
(Electric railroads--Cars) (Electric railway motors)

RAKOV, Vitaliy Aleksandrovich; GOKHSHTEYN, B.Ya., kand. tekhn. nauk, re-tsentrant; KRYLOV, V.I., inzh., retsentrant; LOZANOVSKIY, A.L., inzh., retsentrant; NAKHODKIN, M.D., kand. tekhn. nauk, retsentrant; NEVEZHIN, P.P., inzh., retsentrant; TARASOV, G.F., inzh., retsentrant; TIKHMENEV, B.N., doktor tekhn. nauk, retsentrant; SAZONOV, I.A., inzh., retsentrant; SUKHODOL'SKIY, P.I., inzh., retsentrant; KRYLOV, S.K., inzh. red.; DANILOV, L.N., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[A.C. electric locomotives] Elektrovozy peremennogo toka. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 531 p.
(MIRA 14:10)

(Electric locomotives)

RUBCHINSKIY, Zigmund Moiseyevich, kand. tekhn. nauk; TASTEVEN, Yevgeniy Edmundovich, inzh.; SHIRYAYEV, Arkadiy Pavlovich, inzh.; DOLMATOV, A.A., kand. tekhn. nauk, retsenzent; LIEMAN, G.M., inzh., retsenzent; NAKHODKIN, M.D., kand. tekhn. nauk, retsenzent; SAZONOV, I.A., inzh., retsenzent; TRAKHTMAN, L.M., kand. tekhn. nauk, retsenzent; ZUBLEVSKIY, S.M., inzh., red.; RAKOV, V.A., inzh., red.; USENKO, L.A., tekhn. red.

[Design, arrangement, and working principles of the rolling stock of multiple-unit trains] Ustroistvo i rabota motorvagonogo podvizhnogo sostava. Moskva, Transzheldorizdat, 1962.
(MIRA 16:1)
335 p.

(Electric railroads--Rolling stock)

RUBCHINSKIY, Zigmund Moiseyevich, kand.tekhn. nauk; TASTEVEN,
Yevgeniy Edmundovich, inzh.; SHIRYAYEV, Arkadiy Pavlovich,
inzh.; DOLMATOV, A.A., kand. tekhn. nauk, retsenzent; LIBMAN,
G.M., inzh., retsenzent; NAKHODKIN, M.D., kand. tekhn.nauk,
retsenzent; SAZONOV, I.A., inzh., retsenzent; RAKOV, V.A., inzh.,
red.; ZUBLEVSKIY, S.M., inzh., red.; USENKO, L.A., tekhn. red.

[Design, arrangement, and working principles of the rolling stock
of multiple-unit trains] Ustroistvo i rabota motorvagonnogo pod-
vizhnogo sostava. Moskva, Transzheldorizdat, 1962. 335 p.
(MIRA 16:1)

(Electric railroads--Rolling stock)

SAZONOV, I.D.

Response to B.E. Fedoseenko's article "Creation of a continuous
line for receiving and finishing of carpet products." Tekst.
prom. 24 no.2:65-66 F '64. (MIRA 17:3)

1. Nachal'nik tekhnicheskogo otdela Obukhovskogo kovrovo-
sukonnogo kombinata imeni V.I. Lenina.

LOZA, Dmitriy Fedorovich; GARBUZ, Grigorij Il'ich; SAZONOV, Ivan
Fedorovich; SINYAYEV, A.D., red.

[The motorized rifle battalion in modern combat] Mot-
strelkovyi batal'on v sovremennom boiu. Moskva, Voen-
izdat, 1965. 331 p. (MIRA 18:8)

SAZONOV, Ivan Fedorovich; ALEKSEYEV, M.A., polkovnik, red.; VOLKOVA, V.Ye.,
tekhn. red.

[First Guards; military history of the Order of Lenin First Guards
Rifle Division] Pervaya gвардейская; boevoi put' 1-i gвардейской
ordenia Lenina strelkovoi divizii. Moskva, Voen. izd-vo M-va obor.
SSSR, 1961. 230 p.
(MIRA 14:7)

(Russia—Army—History)

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CIA-RDP86-00513R001447510017-1

SAZONOV, I.I., inzh.

Use of three-program broadcasting. Vest. sviazi 23 no.5:12 My
'63. (MIRA 17:4)

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CIA-RDP86-00513R001447510017-1"

ARKHANGEL'SKIY N.M.; SEREBRIN, L.A.; SAZONOV, I.I.; PESHKO, M.K.; SHANURENKO, V.I.; FAYNGERSH, N.S., inzh.; KLYUCHEV, V.M., inzh.; PARADNYA, P.F.; LINCHEVSKIY, M.A.; PARSHIN, A.P.

Additional potentials in the development of multiprogramm broadcasting. Vest. sviazi 24 no.12:13-15 D '64
(MIRA 18:2)

1. Nachal'nik Karagandinskoy direktsii radiotranslyatsionnoy seti (for Arkhangel'skiy).
2. Nachal'nik Odesskoy oblastnoy direktsii radiotranslyatsionnykh setey (for Serebrin).
3. Glavnyy inzh. Rizhskoy direktsii radiotranslyatsionnykh setey (for Sazonov).
4. Starshiy inzh. Rizhskoy direktsii radiotranslyatsionnykh setey (for Peshko).
5. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta Ministerstva svyazi SSSR (for Shanurenko).
6. Gor'kovskaya direktsiya radiotranslyatsionnykh setey (for Fayngersh, Klyuchev).
7. Nachal'nik Kiyevskoy gorodskoy direktsii radiosetii (for Paradnya).
8. Glavnyy inzh. Uzbekskoy respublikanskoy direktsii radiotranslyatsionnykh setey (for Linchevskiy).
9. Nachal'nik Ufimskoy gorodskoy radiotranslyatsionnoy seti (for Parshin).

SAZONOV, I. N.

Afforestation - Kiev Province

Spot seeding of forest belts in Kiev Province. Agrobiologija No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 1953, Uncl.

1. SAZONOV, I. N.
2. SSSR (600)
4. Oak
7. For high scientific level in spot seeding of oak.
Sov. agron. 11 No. 1, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

SAZONOV, I.N.

Viability of oak clusters in the forest-steppe. Agrobiologija
(MIRA 18:9)
no.5:728-737 S-O '65.

1. Ukrainskaya sel'skokhozyaystvennaya akademiya.

SAZONOV, I. V.

Aviation in USSR's national economy. AVIATSIYA NARODNOM KHOZYAYSTVE
SSSR. Moscow. Publ. by DOSARM. 1949. pp. 30. Illus.

SAZONOV, I.V., kandidat sel'skokhozyaystvennykh nauk; KUZMENKO, M.V.

Agricultural measures in the spot planting of shelterbelts.
Zemledelie 4 no.11:119-121 N '56. (MLRA 10:2)

1. Direktor Veselo-Podolyanskoy optyno-seleksionnoy stantsii.
(Windbreaks, shelterbelts, etc.)

USSR / General and Specialized Zoology - Insects.

P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20869

Author : Sazonov, I. V.

Inst : Not given

Title : Use of Aviation in the Fight Against Insect
Pests of Cotton Plants

Orig Pub : V sb.: Materialy Ob"yedin. nauchn. sessii po
khlopkovodstvu. T.2. Tashkent. Gosizdat.
UzSSR, 1958, 285-288

Abstract : Use of aviation in the USSR in the fight
against insect pests of cotton in 1940-1956.
Normal quantities of insecticides used
against insect pests of cotton. Advantages
and disadvantages of aviation work compared
to ground methods. Need to improve existing
agricultural airplanes and their equipment for

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USSR / General and Specialized Zoology - Insects.

P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20869

studies and the elimination of idle time
for airplanes; the wider use of aviation in
agriculture to the point of 24-hour use of
airplanes. -- A. P. Adrianov

Card 3/3

SAZONOV, I.V.

Possibilities of aerial methods. Zashch. rast. ot vred. i bol.
2 no.6:39-40 N-D '57. (MIRA 16:1)

1. Nachal'nik otdela spetsial'nogo primeneniya Grazhdanskogo
vozdushnogo flota.
(Aeronautics in agriculture)
(Spraying and dusting in agriculture)

SAZONOV, K., red.; NAUMENKO, V., tekhn.red.

[Corn cultivation practices in Daghestan] Agrotekhnika
vozdelyvaniia kukurudy v Dagestane. Makhachkala, Dagestanskoe
knizhnoe izd-vo, 1959. 41 p. (MIRA 14:7)

1. Dagestanskiy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.
(Daghestan—Corn (Maize))

SAZONOV, K.N. (Leningrad)

Determination of stroke and minute volume in heart patients who have undergone surgery. Klin.med. 37 no.11;85-88 N '59. (MIRA 13:3)

1. Iz kafedry gospital'noy khirurgii (zaveduyushchiy - prof. F.G. Ugllov) i Leningradskogo meditsinskogo instituta imeni akademika I.P. Pavlova i otdeleniya funktsional'nykh metodov issledovaniya (zaveduyushchiy dotsent I.I. Likhnitskaya) Leningradskogo nauchno-issledovatel'skogo instituta eksportizy trudosposobnosti i organizatsii truda invazionnykh.

(HEART DEFECTS, CONGENITAL surgery)

LIKHNITSKAYA, I.I.; MIKIRTUMOVA, Ye.V.; SAZONOV, K.N.; GERASIN, V.A.

Methods for determining the minute volume of the blood in physiological
and clinical investigations. Fiziol. Zhur. 46 no. 7:883-886 J1 '60.
(MIRA 13:8)

1. From the clinico-experimental Department, Institute of the
Work Capacity Expertise and the Invalid Labour Organization,
and the Chair of Hospital Surgery of the Pavlov Medical Institute,
Leningrad.

(BLOOD VOLUME)

SAZONOV, K.N.

Utilization of hemodynamic indices for controlling the results of
operative treatment of patients with mitral stenosis. Vest. Khir.
85 no. 7:18-21 Je '60. (MIRA 14;1)
(MITRAL STENOSIS)

SAZONOV, K. N., CAND MED SCI, "CERTAIN HEMODYNAMIC
INDICES IN THE DIAGNOSIS AND EVALUATION OF ~~THE~~ RESULTS
~~the~~
OF SURGICAL TREATMENT OF MITRAL STENOSIS." LENINGRAD,
1961. (MIN OF HEALTH RSFSR, LENINGRAD SANITARY-HYGIENIC
MED INST). (KL, 3-61, 234).

457

UGLOV, G.F.; SAZONOV, K.N.; KRASNOSHCHEKOVA, L.I.; SMIRNOV, A.D.

Diagnosis of mitral and aortic stenoses by the method of catheterization of the left cavities of the heart and aorta. Kardiologija 2 no.2:14-23 Mr-Ap '62. (MIRA 15:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. F.G.Uglov)
I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.
(MITRAL VALVE--DISEASES) (AORTIC VALVE--DISEASES)
(CATHETERS)

UGLOV, F.G.; SAZONOV, K.N.; KRASNOSHCHERKOV, L.I.; SMIRNOV, A.D.

Diagnostic puncture of the atrium sinistrum with catheterization
of the left cavities of the heart and the aorta. Trudy Inst.
klin. i eksper. kard. AN Gruz. SSR 8:569-575 (IRA 17:?)

1. Iz gospital'noy khirurgicheskoy kliniki i Leningradskogo
meditsinskogo instituta.

L 31125-65

EWT(m)/EWP(t)/EWP(e)/EWP(b)

Pq-4 IJP(c)

WB/D

ACCESSION NR: AP5007152

S/0286/65/000/003/0019/0019

20
B

AUTHOR: Khadzhi, V. Ye.; Sazonov, K. P.

TITLE: A method for quality control of artificial quartz crystals. Class 12,
No. 167837

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 3, 1965, 19

TOPIC TAGS: quartz crystal, quality control

ABSTRACT: This Author's Certificate introduces a method for quality control of
artificial quartz crystals. The crystals are inspected for impurities by making
use of the presence of impurities which do

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510017-1

ASSOCIATION: none

ENCL: 00

SUB CODE: SS, IB

SUBMITTED: 21Jan59

OTHER: 000

NO REF SOV: 000

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510017-1"

Sazonov, L. I.
RML

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Analytical Chemistry

General method for studying ~~coagulation and adsorption~~
~~ion with tagged atoms.~~ V. B. Miller, M. B. Norman, and
A. Sazanov [Inst. Chem. Phys., Acad. Sci. U.S.S.R.,
Moscow]. J. Anal. Chem. (U.S.S.R.) 7, 313-15 (1952)
(Engl. translation). See C.A. 47, 15416. H.L.H.

SAZONOV, L.A.

1-25-54

Nuclear Phenomena

✓ Chemical state of atoms formed in nuclear transformations. A. N. Nesmeyanova, L. A. Sazonov, and I. B. Sazonova. *Uspekhi Khim.* 22, 133-78(1953).—Review with 176 references. G. M. Kosolapoff

4
③ N.E.

Pmt

5-15-54

SAZONOV, L. A.

Sazonov, L. A. -- "Measurements of the Pressure of Saturated Pairs of Certain Solid Alkali Halides and Their Binary Mixtures Using the Method of Radioactive Indicators." Moscow State U imeni M. V. Lomonosov. Chair of Inorganic Chemistry. Laboratory of Radiochemistry. Moscow, 1956. (Dissertation For the Degree of Candidate in Chemical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447510017-1

Measurement of the vapor pressure for sodium chloride
and rubidium chloride in their binary mixtures by use of
N. N. Mekhanov and L. A.

5

4E4

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447510017-1"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447510017-1

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447510017-1"

NESEMYANOV, An.N.; SAZONOV, L.A.

Measuring vapor pressure of saturated potassium chloride and partial vapor pressures of components in the system KCl -- RbCl by means of radioactive indicators. Zhur. neorg. khim. 2 no.5:1183-1189 My '57.
(Vapor pressure) (Potassium chloride) (Rubidium chloride)
(MIRA 10:10)

NESMEYANOV, An.N.; KOROLEV, B.M.; SAZONOV, L.A.

Separation of radioactive isotopes during irradiation of
 MnO_2 colloids. Radiokhimia 1 no.6:694-699 '59.
(MIRA 13:4)

(Manganese--Isotopes)

5(4)

AUTHORS:

Nesmeyanov, An. N., Sazonov, L. A.

sov/78-4-1-40/48

TITLE:

The Measurement of the Saturation Vapor Pressure of Anhydrous Lanthanum Chloride by the Method of Radioactive Indicators
(Izmereniye davleniya nasyshchennogo para bezvodnogo khlorida lantana metodom radioaktivnykh indikatorov)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1,
pp 230-231 (USSR)

ABSTRACT:

The vapor pressure of lanthanum chloride was measured by the method of Knudsen by means of a radioactive indicator. The experimental results are shown in the coordinate system $\log P - \frac{1}{T}$ for the saturation vapor pressure of LaCl_3 . The equation of the vapor pressure is as follows:
 $\log P_{\text{mmHg}} = -\frac{15284}{T} + 11.9163$. The sublimation heat calculated from the inclination of the straight line $\log P - \frac{1}{T}$ is $\Delta H_T = 69.93 \text{ kcal/mol}$. The evaporation heat is 59.6 kcal/mol . It clearly differs from the value 53.3 kcal/mol reported by

Card 1/2

SOV/78-4-1-40/48

The Measurement of the Saturation Vapor Pressure of Anhydrous Lanthanum Chloride by the Method of Radioactive Indicators

Harrison (Ref. 1). There are 1 figure, 1 table, and 4 references, 1 of which is Soviet.

SUBMITTED: July 23, 1958

Card 2/2

5(4)

AUTHORS:

Nesmeyanov, An. N., Sazonov, L. A. SOV/78-4-1-41/48

TITLE:

The Measurement of Saturation Vapor Pressure of Lithium Chloride (Izmereniye davleniya nasyshchennogo para khlorista litiya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1,
pp 231-233 (USSR)

ABSTRACT:

The saturation vapor pressure of lithium chloride was investigated by the method of Knutsen (Knudsen). Anhydrous lithium chloride was produced from aqueous lithium chloride. The sublimation heat in the temperature range from 808 to 890°K was calculated from data on vapor pressure; a value of 46.810 kcal/mol was found. Data on evaporation and sublimation heat by various authors are summarized in table 2. For ΔH_0° (sublimation heat at 0°K) the value 53.72 ± 0.12 kcal/mol was calculated from the data on the vapor pressure of monomeric lithium chloride at 870°K. There are 1 figure, 2 tables, and 6 references, 2 of which are Soviet.

Card 1/2

NESMEYANOV, An. N.; SAZONOV, L.A.

Measurement of the pressure of saturated cesium chloride vapor
by means of radioactive tracers. Zhur. neorg. khim. 5 no.3:519-
521 Mr '60. (MIRA 14:6)

(Cesium chloride)
(Vapor pressure)

S/195/62/003/005/006/007
E075/E436

AUTHORS: Sazonov, L.A., Logvinenko, M.G.

TITLE: Influence of the baking temperature of the oxides of rare earth elements on their catalytic properties

PERIODICAL: Kinetika i kataliz, v.3, no.5, 1962, 761-766

TEXT: Gd_2O_3 , Sm_2O_3 , CeO_2 , Yb_2O_3 , La_2O_3 , Nd_2O_3 and Dy_2O_3 were investigated in respect of their ability to catalyse the oxidation of CO. The investigation of the catalytic activity of the oxides was undertaken in view of their physical and chemical properties (unfilled electronic shells, several crystallographic forms, relative ease of loss of stoichiometric oxygen under vacuum). The oxidation of CO was conducted in the usual static vacuum apparatus. The oxides of Gd, Sm, Ce, Yb were prepared by the decomposition of corresponding carbonates at $700^{\circ}C$, and were heated to $700^{\circ}C$ prior to the reaction carried out at $250^{\circ}C$. It was found that the kinetic curves of CO oxidation for all the oxides have a plateau, believed to be connected with the changing chemical composition of the catalyst surfaces in the process of the reaction. For La, Nd and Dy oxides the kinetic curves can be

Card 1/2

Influence of the baking . . .

S/195/62/003/005/006/007
E075/E436

expressed by an equation of the first order. The specific constant of the reaction rate increases with the increasing baking temperature (10 hours at 500 to 900°C, the reaction being conducted at 250°C) by factors of 6, 3.5 and 100 for La_2O_3 , Dy_2O_3 and Nd_2O_3 respectively. There are 5 figures and 3 tables.

ASSOCIATION: Institut kataliza SO AN SSSR
(Institute of Catalysis SO AS USSR)

SUBMITTED: July 19, 1962

Card 2/2

LYANDO, V.A.; ALABUZHEV, Yu.A.; SAZONOVA, I.S.; SAZONOV, L.A.

Glass cell with conducting walls for measuring the contact
difference of potentials. Kin. i kat. 3 no. 5:794-796 S-0
'62. (MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.
(Catalysis) (Electromotive force)

SAZONOV, L.A.; LOGVINENKO, M.G.

Effect of the calcining temperature of rare earth oxides on their
catalytic activity. Kin.i kat. 3 no.5:761-766 S-0 '62.

(MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.
(Rare earth oxides) (Catalysis)

L 8491-66 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c) JD/JG

ACC NR: AP5026473

SOURCE CODE: UR/0195/65/006/005/0836/0841

AUTHOR: Sazonov, L.A.; Ratov, A.N.; Ratova, T.G.

ORG: Institute of Catalysis, SO AN SSSR (Institut kataliza SO AN SSSR)

TITLE: Isotopic exchange¹⁸ of oxygen on neodymium oxide in various crystalline forms

SOURCE: Kinetika i kataliz, v. 6, no. 5, 1965, 836-841

TOPIC TAGS: isotope, oxygen, neodymium compound

ABSTRACT: The mobility of the oxygen of neodymium oxide in the cubic (C) and hexagonal (A) form and in a mixture of these two forms was studied at 350 - 480°. The isotopic oxygen exchange in the system molecular oxygen-oxide was studied by circulating oxygen containing an excess of the O^{18} isotope. The activation energy of the isotopic exchange reaction was found to be 30 kcal/mole. It was found that the mobility of oxygen in neodymium oxide is independent of the latter's crystalline form. The oxides in forms A, C, and A + C display the same isotopic exchange activity, which depends appreciably on the conditions of their thermal pretreatment. Neodymium oxide heated for 1 hr at 700C in a vacuum was active in the homomolecular exchange of oxygen at 20°, and as the reaction proceeded, a marked drop in activity with time was observed. Authors thank G.K. Boreskov

UDC 541.127:539.183.2;546.21:546.657-31-44

Card 1/2

L 8491-66

ACC NR: AP5026473

and V.S. Muzykantov for their constant interest in the work and their discussion. Orig.
art. has: 6 figures, 3 tables, and 2 formulas.

SUB CODE: 07 / SUBM DATE: 13Apr64 / ORIG REF: 009 / OTHER 002

BVK
Card 2/2

L 26356-66 EWT(m)/EWP(j) DIAAP JD/JW/JG/RM

ACC NR: AP6013382

SOURCE CODE: UR/0195/66/007/002/0284/0288

AUTHOR: Sazonov, L. A.; Sokolovskiy, V. D.; Boreskov, G. K.

ORG: Institute of Catalysis, SO AN SSSR (Institut kataliza SO AN SSSR)

TITLE: Homomolecular and isotopic exchange¹⁹ of oxygen on gadolinium oxide

SOURCE: Kinetika i kataliz, v. 7, no. 2, 1966, 284-288

TOPIC TAGS: gadolinium compound, oxygen, isotope

ABSTRACT: The reactions of homomolecular and isotopic exchange of oxygen on gadolinium oxide were studied over a wide temperature range (-78 to 500°C) in relation to the preliminary treatment of the oxide. The catalytic activity of the oxide in this reaction was found to be stable below 200°C. Heating of the catalyst in oxygen above 200°C, where the isotopic exchange of oxygen between the oxide and the gas phase begins, caused a change in catalytic activity at low temperatures. At high temperatures, the two reactions occur at similar rates and equal activation energies, indicating the presence of a common rate-determining step. Calcining of the catalyst in a vacuum at 700°C causes a high catalytic activity with respect to homomolecular exchange even at -78°C; this activity disappears after the oxide is heated in oxygen above 200°C. Two temperature regions with different activation energies were found for the low-temperature exchange. Orig. art. has: 3 figures, 2 tables, 12 formulas.

SUB CODE: 07/ SUBM DATE: 25Jan65/ ORIG REF: 005/ OTH REF: 001

UDC: 546.662-31-44

Card 1/1

GADOLIN, A.V.; ANSHELES, O.M., redaktor; SHAFRANOVSKIY, I.I., redaktor;
FRANK-KAMENETSKIY, V.A., redaktor; SAZONOV, I.S., redaktor; PETROV-
SKIY, I.G., akademik, redaktor; ANDRISEYEV, N.N., akademik, redaktor;
BYKOV, K.M., akademik, redaktor; KAZANSKIY, B.A., akademik, redaktor;
OPARIN, A.I., akademik, redaktor; SHMIDT, O.Yu., akademik redaktor;
SHCHERBAKOV, D.I., akademik, redaktor; YUDIN, P.F., akademik,
redaktor; KOSHTOYANTS, Kh.S., redaktor; MAKSIMOV, A.A., redaktor;
SAMARIN, A.M., redaktor; LEBEDEV, D.M., doktor geograficheskikh nauk,
redaktor; FIGUROVSKIY, N.A., doktor khimicheskikh nauk, redaktor;
KUZNETSOV, I.V., kandidat filosofskikh nauk, redaktor; OZNOBISHIN,
D.V., kandidat istoricheskikh nauk, redaktor; SMIRNOVA, A.V.,
tekhnicheskiy redaktor

[Development of all crystallographic systems and their subdivisions
from a common origin] Vyvod vsekh kristallograficheskikh sistem i ikh
podrazdelenii iz odnogo obshchego nachala. Redaktsiya i primechania
O.M.Anshelesa, I.I.Shafranovskogo, V.A.Frank-Komenetskogo. [Leningrad]
Izd-vo Akademii nauk SSSR, 1954. 155 p. (MLRA 7:10)

1. Chlen-korrespondent AN SSSR (for Koshtoyants, Maksimov, Samarin)
(Crystallography)

SAZONOV, L.S.

MARKOV, A.A.; PETROVSKIY, I.G., akademik, redaktor; NIKOL'SKIY, S.M., professor; SAZONOV, L.S., redaktor; ARONS, R.A., tekhnicheskij redaktor.

Theory of algorithms. Trudy Mat.inst. 42:3-374 '54. (MIRA 8:5)
(Algorism)

SAZONOV, L.S.

VOL'KENSSTEYN, M.V.; YEL'YASHEVICH, M.A., doktor fiziko-matematicheskikh nauk, professor, redaktor; SAZONOV, L.S., redaktor; SMIRNOVA, A.V. tekhnicheskiy redaktor.

[Structure and physical properties of molecules] Stroenie i fizicheskie svoistva molekul. Moskva, Izd-vo Akademii nauk SSSR, 1955. 638 p.
(MLRA 8:12)
(Molecules)

FRISH, S.E., otv. red.; FEOFILOV, P.P., red.; SAZONOV, L.S., red.;
ZENDEL', R.Ye., tekhn. red.

[Optics and spectroscopy] Optika i spektroskopia; sbornik
statei. Moskva, Izd-vo Akad. nauk SSSR. Vol.1. [Luminescence]
Liuminestsentsiya. 1963. 364 p. Vol.2. [Molecular spectro-
scopy] Molekularnaia spektroskopia. 1963. 346 p.
(MIRA 16:4)

1. Akademiya nauk SSSR. Otdeleniye fiziko-matematicheskikh
nauk. 2. Chlen-korrespondent Akademii nauk SSSR (for Frish).
(Luminescence) (Molecular spectra)

LIDIN, G.D.; ETTINGER, I.L.; ZHUPAKHINA, Ye.S.; SAZONOV, L.Ya.

Determination of the speed of gas emission as a method of uncovering
in coal seams zones, that are exposed to the danger of ejection.
(MIRA 8:1)
Ugol' 29 no.12:21-24 D '54.

1. Institut gornogo dela Akademii nauk SSSR (for Lidin, Ettinger and
Zhupakhina). 2. Shakhta "Yunyy Kommunar" tresta Ordzhonikidzeugol'
(for Sazonov).
(Mine gases) (Coal mines and mining)

SAZONOV, M.; TSYKUNOV, I., mehanik

Improved design of the ZGS grain loader. Muk.-elev. prom. 26 no.10:
18 0'60.

(MIRA 13:10)

1. Direktor Rossoshanskogo khlebopriyemnogo punkta Voronezhskoy
oblasti (for Sazonov).
(Grain-handling machinery) (Loading and unloading)

L 5384-66 EWT(I)/ETC/EPF(n)-2/EWC(m)/EPA(w)-2 IJP(c) AT
ACC NR: AP5027285 SOURCE CODE: UR/0207/65/000/005/0132/0135

AUTHORS: Daumov, G. Yu. (Novosibirsk); Dudnikov, Yu. S. (Novosibirsk); Zhukov, M. F. (Novosibirsk); Sazonov, M. I. (Novosibirsk)

ORG: none

TITLE: Distribution of potential along arc of vortex type plasma generator

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 132-135

TOPIC TAGS: plasma jet, turbulent flow, pressure distribution, plasma generator, plasma arc

ABSTRACT: The voltage-current characteristics of a plasma arc of variable length "a" were investigated experimentally under stable-arc operation conditions. The arc was vortex-stabilized and the flow-turbulent. A special flow chamber was added to the generator to control the arc pressure independently of the arc length "a". Both the cathode and the anode were made of water-cooled copper, and the working gas was air. Voltage current (U-I) curves with the arc length as the parameter showed that U decreases with decreasing arc length and that for each length there is a minimum in U at some value I in the vicinity of 100 amps.

Card 1/2

L 5384-66
ACC NR: AP5027285

J

A voltage versus length curve shows that U depends on "a" linearly and varies only slightly with the gas main flow rate. On the basis of a functional analysis between U, I, mass flow rate G, and "a", the following empirical equation is obtained for predicting the potential distribution along the arc length

$$E = -G^{0.16}(5160 - 14.8I + 0.073I^2) \text{ v.m}^{-1}$$

where $1900 \leq E$ (volts/m) ≤ 2500 , I is in amps, and G in kg/sec. The weak dependence of U on the flow rate is explained by the fact that only a small portion of the gas is exposed directly to the arc. Orig. art. has: 4 formulas and 4 figures.

SUB CODE: ME/ SUBM DATE: 11Feb65/ ORIG REF: 003/ OTH REF: 005

PC
Card 2/2

L 13362-66

EWT(i)/ETC(F)/EPF(n)-2/ENG(m)

LJP(c)

AT

ACC NR: AP6002012

SOURCE CODE: UR/0288/65/000/003/0056/0062

4/3

AUTHOR: Dautov, G. Yu.; Dudnikov, Yu. S.; Sazonov, M. I.

B

ORG: Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR,
Novosibirsk (Institut teoreticheskoy i prikladnoy mehaniki Sibirskego otsteleniya.
AN SSSR)

TITLE: Investigation of a plasmatron with an interelectrode insert

SOURCE: AN SSSR. Sibirskoye otsteleniya. Izvestiya. Seriya tekhnicheskikh nauk,
no. 3, 1965, 56-62

TOPIC TAGS: plasma jet, electrode, electric arc

ABSTRACT: Results are reported of an experimental investigation of a plasmatron (plasma jet) in which cold air pumped into the gap between the insert and the output electrode was used as an insulator; as the effect of a single insert was found to be inadequate, a multiple insert was tried with mica insulation. The arc current-voltage characteristics and the air-enthalpy increase curve are presented, as well as a current-voltage characteristic of the nonsselfmaintaining discharge between the

Card 1/2

UDC: 533.9.07 : 533.9.082.7

L 13362-66

ACC NR: AP6002012

positive column and the 4th insert. It is found that: (1) The interelectrode insert permits considerable increase in the arc length, arc voltage drop, and gas temperature; it provides a method for obtaining an ascending characteristic and for eliminating arc shunting; (2) The inserts connected to the power supply through isolating switches provide an additional possibility of adjusting the arc operation "on the run," with no adjustable power supply needed; (3) Gas supply distributed along the channel may provide an additional opportunity for improving arc characteristics. Orig. art. has: 6 figures and 7 formulas.

SUB CODE: 20, 09 / SUBM DATE: 09Jan65 / ORIG REF: 004 / OTH REF: 003

Card 2/2

DAUTOV, G. Yu.; DUDNIKOV, Yu.S.; SAZONOV, M.I.

Investigating plasmatron with an interelectrode insert. Izv. SO
AN SSSR no. 10:56-62 '65 (MIRA 19:1)

1. Institut teoreticheskoy i prikladnoy mekhaniki Sibirsogo
otdeleniya AN SSSR, Novosibirsk. Submitted January 9, 1965.

✓ Investigation of mixing properties in open-hearth furnace
baths with the aid of radioactive isotopes. A. I. Osipov.
L. A. Slivartsman, V. E. Iudin, and M. L. Sazonov.

Sovetska Akad. Nauk SSSR po Mirovym Isledovaniyam

Atomnaya Energiya 1953, Zasedaniya Otdel. Tekhn. Nauk, 29-41

(English summary, 47).—Radiocobalt was used in the time
study of its uniform distribution in the molten metal in
large open-hearth furnaces. The time necessary for the
uniform distribution of radiocobalt throughout the liquid
metal is established from the kinetic curves of changes of
concn.

W. M. Sternberg

SALZNOY, M.I.

USSR

2304. New rapid method of analysis of slag for phosphorus, with a radioactive indicator. A. I. Osipov, I. Yu. Kogayevskiy, V. E. Iudin, M. I. Salznoy, M. G. Bul'shil, A. G. Alimov, A. M. Skrepenskiy and A. P. Krybenko (Zavod. Lab., 1956,

21 [4], 301-305). The addition of a controlled amount of radioactive phosphorus, with a specific activity of 220 to 420 mC per g, to the melt in the manufacture of high-phosphorous (0.9 to 1.6 per cent) cast iron, and measurement of the activity of portions of the slag after cooling in water to 30° to 40° C, permits the phosphorus content of the slag to be determined rapidly (within 5 to 7 min.) at any time during the course of the melt. To attain efficient mixing without loss of the radioactive phosphorus, the phosphorus is first mixed with iron powder and charged into a copper tube (150 mm. x 18 mm), the ends of which are then sealed. The tube is placed in the liquid cast-iron. By the time the copper has melted, combination between the phosphorus and the iron has occurred, and uniform distribution throughout the mass of the metal takes place. Under the conditions of working, a proportionality factor for the distribution of phosphorus from the chemical analysis of a slag sample and its radioactivity is found, and used for subsequent analyses. The error (average square error 8.2 per cent.) is less than that of normal chemical determinations. G. S. Sarn

Cent. Sci. Res. Inst. Ferrous Metallurgy + Plant "Azovstal"

YUDIN, V.Ye.; SAZONOV, M.L.; OSIPOV, A.I.

Apparatus for measuring the radioactivity of metal samples.
Zav.lab.21 no.11:1384-1385 '55. (MLRA 9:2)

1. Institut metallovedeniya i fiziki metallov Tsentral'nogo
nauchno-issledovatel'skogo instituta tekhnologii chernoy
metallurgii.
(Radioactivity--Measurement)

Sazonov, M.

89-10-22/36

AUTHORS: Osipov, A.I., Shwartsman, V.A., Alekseyev, V.I., Surov, V. F.
Sazonov, M., Bulskiy, M.T., Telesov, S.A., Skrebtsov, A.M., Ofengenden,
A.M., Gol'dshteyn, L. G., Sviridenko, F. F.

TITLE: The Use of Radio Isotopes when Investigating the Kinetics of Scrap
Fusion and Slag Formation in the Scrap-Ore Process. (Primeneniye
radioaktivnykh isotopov dlya izucheniya kinetiki plavleniya skrapa
i shlakobrazovaniya pri skrap-rudnom protsesse)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr. 10, pp. 352-355 (USSR)

ABSTRACT:
1) Investigation of the kinetics of scrap fusion.
The fusion velocity in the 130 and 350 ton open hearth furnaces is
shown on the basis of the reduction of the specific activity of
standard metal samples (400 g), which contain Co-60 with the help
of 12 counting tubes of the MC-4 type.
From the dependence obtained between the molten scrap quantity and
the time which has elapsed since introduction of the scrap, it fol-
lows that nearly 100% of the scrap is molten already after about
200 minutes.
2) Investigation of the kinetics of slag formation.
CaO, in which Ca-45 was included, was used for this investigation.
The CaO is introduced into the liquid slag in closed metallic tubes
and standard samples for measuring are taken out only after a lapse
of time of 30-35 minutes. As measurement for the velocity in which
Ca dissolves in the slag, the relation

Card 1/2

The Use of Radio Isotopes When Investigating the Kinetics of Scrap Fusion and Slag Formation in the Scrap-Ore Process. 89-10-22/36

$\frac{dx}{dt} = K_{SCH} (100 - x)^{2/3}$ was experimentally confirmed.

x here denotes the weight of the CaO already dissolved and K_{SCH} is the proportionality coefficient for slag formation. There are 4 figures and 2 Slavic references.

SUBMITTED January 15, 1957
AVAILABLE Library of Congress

Card 2/2

Sazonov M.L.

SOV/137-58-8-16481

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 35 (USSR)

AUTHORS: Osipov, A.I., Shvartsman, L.A., Iudin, Ye.V., Sazonov, M.L.

TITLE: On the Uniform Distribution of Small Quantities of a Substance
in the Slag During Smelting of Steel in a 350-t Furnace (O rav-
nomernom raspredelenii maloy dobavki v shlake pri vyplavke
stali v 350-t pechi)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo: Moscow, Metallurgizdat,
1958, pp 218-224

ABSTRACT: In order to investigate the problem of the rate at which a substance distributes itself uniformly in a slag during open-hearth smelting, a radioactive isotope, Ca⁴⁵, encased in an ampoule, was introduced into the slag through the central opening of the furnace; slag samples were withdrawn through the other openings. The intensity of radioactivity was measured with a BFL-25 counter. The counting rate was determined by the thick-layer method, a procedure which eliminated the need for weighing operations. The accuracy of the radiometric measurements constituted 5% including statistical errors and errors caused by disturbances in geometric conditions of

Card 1/2

SOV/137-58-8-16481

On the Uniform Distribution of Small Quantities of a Substance (cont.)

measurement. The rate of distribution of a small quantity of an additive is smaller in slag than in metal; 30-35 minutes are required for leveling off of the tracer in the case of slag, and 8-15 minutes in the case of metal, despite the fact that the volume of slag is considerably smaller. Rates of turbulent diffusion of Ca in the slag amount to 50-100 cm²/sec and are smaller by one order than the corresponding values of radioactive Co in steel; in this connection, the author comments on an analogous difference between the kinematic viscosity of steel and that of basic open-hearth slags. The distribution of radioactive Ca in the slag is strongly affected by the aerodynamic pressure of the flame.

L.K.

1. Steel--Production
2. Slags--Properties
3. Metals--Distribution
4. Calcium isotopes (Radioactive)--Performance

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SOV/ 20-120-3-45/67

AUTHORS: Shvartsman, L. A., Osipov, A. I., Surov, V. F.,
Sazonov, M. L., Telesov, S. A., Ofengenden, A. M.

TITLE: On the Equilibrium of Sulfur Distribution Between Metal and
Slag in Open-Hearth Furnaces (O ravnovesii raspredeleniya
sery mezhdu metalloem i shlakom v martenovskikh pechakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 3, pp.599-601
(USSR)

ABSTRACT: In the analysis of the desulfurization process in such furnaces a clearing up of the dependence of the equilibrium coefficient of the sulfur distribution on the slag composition and on temperature is primarily necessary. If this is known, that minimum limit-concentration of sulfur in the metal can be estimated, which can be reached at optimum kinetic conditions with the respective slag composition. The difference between the actually observed and the equilibrium coefficient of the sulfur distribution is apparently conditioned by the insufficient velocity of mass transfer in the system slag-metal. From a thermodynamical point of view the basicity

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On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open-Hearth Furnaces

of the slag is decisive for the desulfurization. Contrary to current opinion an increase of the concentration of ferrous oxide does not essentially impair the thermodynamical conditions of steel desulfurization in slags of the Siemens-Martin type. At the same time an increase of the said concentration leads to a reduction of the viscosity of the slag and accelerates the processes of mass transfer in it. Fig 1 shows the values of the sulfur distribution coefficients in dependence upon Δ (difference between the mole-number of the basic and the acidous oxides contained in 100 g of slag = a measure of the basicity of the slag according to Grant and Chipman, Ref 1). From this the following fundamental conclusions can be drawn: 1) During the melting period the sulfur content in the slag exceeds the value corresponding to the equilibrium with the metal. This circumstance is caused by the transition of the sulfur from the furnace atmosphere into the slag. The transition of the sulfur from the slag to the metal proceeds slowly, its content, in the metal, however, rises (Fig 1). Moreover, the sulfur transition to the metal is chemically conditioned by

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On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open-Hearth Furnaces

the composition of the just formed slag. Then the slag is acidous. The Δ -values are negative (Fig 1) and the values of the equilibrium coefficients are very small. Figure 1 shows that during the melting period the desulfurization tends towards equilibrium along two ways: a) By the passage of sulfur from the slag to the metal and b) By the continuous change in the amount of slag and its composition. An increase in the amount of slag reduces the sulfur concentration, whereas an increase of the basicity increases the equilibrium coefficient of the distribution. In order to guarantee a combination of thermodynamic and kinetic conditions favorable to a successful desulfurization, such a slag regime must be maintained, in which a) The silicon content in the slag is kept low if possible during the entire melting process, and b) The slag is kept in a sufficiently liquid state. This is achieved by the introduction of liquefying additions, such as agents containing ferrous oxide. There are 2 figures and 2 references, 1 of which is Soviet.

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On the Equilibrium of Sulfur Distribution Between Metal and Slag in Open-Hearth Furnaces

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii
(Central Scientific Research Institute of Ferrous Metallurgy)
Stalinskiy metallurgicheskiy zavod
(Stalino Metallurgical Plant)

PRESENTED: January 9, 1958, by G. V. Kurdyumov, Member, Academy of Sciences, USSR

SUBMITTED: January 9, 1958

1. Open hearth furnaces--Performance
2. Sulfur--Determination
3. Steel--Quality control
4. Slags--Properties

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SAZONOV, M.L.; SHVARTSMAN, L.A.

Distribution of elements of the 5th group of the periodic table between iron - iron based slags.

report submitted for the 5th Physical Chemical Conference on Steel Production.

MOSCOW

30 JUN 1959

SAZONOV, M. L.

18 (0) PHASE I BOOK EXPLOITATION SOV/2125

Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
Institut Metallovedeniya i fiziki metallov
Problemy metallovedeniya i fiziki metallov (Problems in Physical
Metallurgy and Metal Physics) Moscow: Metallurgizdat, 1959.
540 p. (Series: Iss. Shornik trudov, 6) Errata slip inserted.
3,600 copies printed.

Additional Sponsoring Agency: USSR, Gosudarstvennaya Planova komissiya.

Ed. of Publishing House: Ye. N. Berlin; Tech. Ed.: P. G. Inlet; revs:
Editorial Board: D. S. Kamenskaya, B. Ya. Lyubov (Resp. Ed.)
Ye. Z. Svetkov, L. M. Utevskiy, L. A. Shvartzman, and V. I. Malikh.

PURPOSE: This book is intended for metallurgists, metallurgical

engineers, and specialists in the physics of metals.

COVERAGE: The papers in this collection present the results of investigations conducted between 1954 and 1956. Subjects of
Card 1/18 covered include crystallization of metals, physical methods of
influencing the processes of crystallization, problems of new methods and equipment for investigating metals, and
production control. References follow each article.

TABLE OF CONTENTS:

PART I. CRYSTALLIZATION OF METALS

Ozjor, A. I., L. A. Shvartzman, V. Ye. Rudin, and M. L. Sazonov
On the Uniform Distribution of a Small Addition in the Bath
During the Production of Steel in a 30-ton [Open-hearth] Furnace

The distribution process was studied with the use of a radioactive isotope (Ca-45). It was shown that the process of diffusion of a substance in slag takes place at a considerably slower rate than in metal.

Shvartzman, L. A., A. I. Ozjorov, V. I. Alekseyev, V. P. Surov,
M. L. Sazonov, M. T. Bul'shik, S. A. Telecov, A. M. Skribtsov,
A. M. Orenzenden, L. G. Odabashyan, and P. P. Sviridenko,
Investigation of the Kinetics of Scrap Melting in the
Scrap-Ore Process

A method for determining the speed of melting scrap in an open-hearth furnace in the scrap-ore process was developed on the basis of this investigation. The method is based on isotopic dilution using radioactive cobalt. It was shown that the melting speed depends on the duration of the pig iron pouring process and carbon content in the bath.

Stupan', S. M. Investigation of the Transfer of Sulfur from
the Bath to the Slag in the Basic Open-hearth Furnace
The transfer of sulfur from the basic phase to the bath
takes place most intensively during the loading of the

metallitic portion of the charge. The speed of sulfur absorption
during this period is 17-25 percent per hour, during absorption
heating 8-11 percent, and during final melting 3-5 percent.
Percentage is based on the sulfur content in the metal.

SOV/180-59-3-7/43

AUTHORS:

Sazonov, M.L. and Shvartsman, L.A. (Moscow)

TITLE:

Distribution of Niobium Between Iron and Ferruginous Slag

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 3, pp 34-36 (USSR)

ABSTRACT:

The authors describe their investigation of the behaviour of niobium in iron/ferruginous slag. Radioactive Nb⁹⁵ was used to determine the niobium-content of iron after it had been kept in contact with the slag. Flakes of electrolytic iron were moistened with Nb⁹⁵-containing aqueous Nb₂(C₂O₄)₅ and melted in a neutral atmosphere. The logarithm of the distribution coefficient was found, for the temperature range 1535 to 1740°C, to be equal to $(70500/4.575T) - 3.18$ where T is the absolute temperature. The linearity of the relation is shown graphically, the heat-content change associated with the transfer of 1 g atom of niobium from metal to slag being 70500 cal. Good agreement for this with the calculated value (72.250 cal/g atom) confirms that in slag niobium is in the form Nb₂O₅ and indicates that both in slag and metal the heats of mixing are low. From their own and published (Ref 4)

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Distribution of Niobium Between Iron and Ferruginous Slag

data the authors calculate the value of the equilibrium constant for the reaction $2\text{Nb}(\text{in Fe}) + 5(\text{FeO}) = (\text{Nb}_2\text{O}_5) + 5\text{Fe}$ at 1873°K to be 3.6×10^{13} . There is 1 figure and 4 references, 3 of which are Soviet and 1 English.

SUBMITTED: February 25, 1959

Card 2/2

SAZONOV, M. L., Cand Tech Sci -- (diss) "Thermodynamics of reactions of the oxidation of arsenic, antimony, and niobium, dissolved in iron." Moscow, 1960. 18 pp; (Academy of Sciences USSR, Inst of Metallurgy im A. A. Baykov); 150 copies; price not given; printed on duplicating machine; (KL, 22-60, 139)

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18 (7), 21 (8)

68212
S/032/60/026/01/023/052

AUTHORS: Sazonov, M. L., Shvartsman, L. A. B010/B001

TITLE: The Use of Radioactive Traces¹⁴ of Arsenic and Niobium for the Investigation of Metallurgical Reactions

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 68 - 71 (USSR)

ABSTRACT: The authors describe methods which may be used for the investigation of the distribution of niobium and arsenic between an iron melt and the slag. Nb⁹⁵ and As⁷⁶ were used for the experiments; special attention was paid to their separation from radioactive impurities. 3 g portions of slag powder, saturated with Nb₂O₅(C₂O₄)₅ and dried, were applied to the surface of the molten iron sample in order to investigate the powder by the method of successive saturation. It was found that the radioactive impurities (Ru¹⁰⁶) of Nb, but not Nb itself, pass over into the iron melt. Thus, a method can be worked out for the purification of Nb⁹⁵ from radioactive impurities (Table: Radioactivity of Metal Samples in Equilibrium). Experiments in

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The Use of Radioactive Isotopes of Arsenic and S/032/60/026/01/023/052
Niobium for the Investigation of Metallurgical B010/B001
Reactions

the temperature interval 1535 - 1740° showed that the temperature function of the distribution coefficient L_{Nb} obeys an equation according to which 70,500 cal are liberated on oxidation of 1 g-atom Nb (dissolved in iron). Since the distribution coefficient L_{As} for arsenic is small, the method of sample withdrawal was applied to investigate the equilibrium of arsenic. Special experiments on the effect of radioactive impurities on the determination accuracy of L_{As} were carried out. The slag was separated from the molten iron containing As^{76} by "freezing on" to a steel rod. The procedure was frequently repeated and it was found that the radioactive impurities have a greater distribution coefficient than arsenic and thus were successively removed by repeated slag withdrawal (Fig 2). Thus, As^{76} has to be freed from radioactive impurities before investigations of the As distribution between iron and slag are carried out. It was found that L_{As} does not depend on the

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